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FALL WATER SUPPLY SUMMARY for NEVADA

UNITED STATES DEPARTMENT of AGRICULTURE--SOIL CONSERVATION SERVICE,
and
NEVADA DEPARTMENT of CONSERVATION and NATURAL RESOURCES
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation with the Federal, State and private organizations listed on the last page of this report.

AS OF
OCT. 1, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Soil Conservation Service, 511 N.W. Broadway - Room 507, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
RIVER BASINS			
WESTERN UNITED STATES _____	MONTHLY (FEB.-MAY) _____	PORTLAND, OREGON _____	ALL COOPERATORS
BASIC DATA SUMMARY _____	OCTOBER 1 _____	PORTLAND, OREGON _____	ALL COOPERATORS
STATES			
ALASKA _____	MONTHLY (MAR.-MAY) _____	PALMER, ALASKA _____	ALASKA S.C.D.
ARIZONA _____	SEMI-MONTHLY (JAN. 15 - APR. 1) _____	PHOENIX, ARIZONA _____	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO _____	MONTHLY (FEB.-MAY) _____	FORT COLLINS, COLORADO _____	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO _____	MONTHLY (JAN.-JUNE) _____	BOISE, IDAHO _____	IDAHO STATE RECLAMATION ENGINEER
MONTANA _____	MONTHLY (JAN.-JUNE) _____	BOZEMAN, MONTANA _____	MONT. AGR. EXP. STATION
NEVADA _____	MONTHLY (JAN.-MAY) _____	RENO, NEVADA _____	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON _____	MONTHLY (JAN.-JUNE) _____	PORTLAND, OREGON _____	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH _____	MONTHLY (JAN.-JUNE) _____	SALT LAKE CITY, UTAH _____	UTAH STATE ENGINEER
WASHINGTON _____	MONTHLY (FEB.-JUNE) _____	SPOKANE, WASHINGTON _____	WN. STATE DEPT. OF CONSERVATION
WYOMING _____	MONTHLY (FEB.-JUNE) _____	CASPER, WYOMING _____	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA _____	MONTHLY (FEB.-JUNE) _____	WATER RESOURCES SERVICE, DEPT. OF LANDS, FOREST AND WATER RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA _____	MONTHLY (FEB.-MAY) _____	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

FALL WATER SUPPLY SUMMARY for NEVADA

Report prepared by

MANES BARTON

and

ROY E. MALSOR, JR.

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OCTOBER 8, 1965

Issued by

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STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
RENO, NEVADA

ELMO J. DE RICCO

~~HUGH A. SHAMBERGER~~

DIRECTOR
DEPARTMENT OF CONSERVATION AND
NATURAL RESOURCES
CARSON CITY, NEVADA

FALL WATER SUPPLY SUMMARY

FOR NEVADA

October 1, 1965

Nevada's 1965 irrigation water supply was excellent. As forecast last spring the above normal snowpack produced above average April-July streamflow, which held up into August and September much longer than usual. Only moderate amounts of reservoir stored water was needed. The water used was replaced by streamflow to the extent that Nevada's principal reservoirs held more water on October 1, 1965 (1,144,000 a.f.) than on May 1, 1965 (1,095,000 a.f.).

Nevada's seven principal reservoirs, exclusive of Lakes Mead and Mohave, are 83 percent of capacity and 200 percent of the October 1, 1948-62 average. Some water may have to be spilled to provide winter flood control room and space for next spring and summer's snowmelt runoff.

Heavy late spring and early summer rainfall coupled with below normal temperature slowed plant growth and harvesting. East slope Sierra and northern Nevada mountain soils are well wetted with only moderate amounts of moisture required to wet them to field capacity.

All data currently available indicate potentially favorable prospects for the coming 1966 irrigation season.

The first 1966 Water Supply Outlook Report will be issued on January 8, 1966, to be followed by subsequent monthly reports on February 8, 1966, March 8, 1966, April 8, 1966, and May 8, 1966. These reports will contain the latest snow survey precipitation, reservoir, and soil moisture data along with April-July 1966 stream forecasts and dates of specified low flow amounts.

APRIL-JULY 1965
NEVADA STREAMFLOW FORECASTS
AND
OBSERVED STREAMFLOW

The following table contains April-July forecasts made during the past winter except as otherwise noted. Observed streamflow amounts are provisional and were furnished by the U. S. Geological Survey and other agencies.

	April-July, Streamflow Thousand Acre-Feet						
	Forecast				:Observed		
	Feb.	Mar.	Apr.	May*	Observed:15-Yr. :	1965	
	1 1965	1 1965	1 1965	1 1965	Apr-July: Av. : 1965 :1948-62:15-Yr.Av.	as %	
Owyhee R. nr. Gold Cr., Nev. ¹	24	23	22	11 (15)	28	22	127
Owyhee R. nr. Owyhee, Nev. ¹	80	78	74	48 (54)	97	74	131
Lamoille Cr.nnr. Lamoille, Nev.		34	32	30 (32)	34	26	131
So.Fk. Humboldt nr. Elko, Nev.		75	70	59 (81)	93	60	155
Marys River above Hot Springs, Nev.		36	33	22 (40)	52	34	153
N.Fk. Humboldt at Devils Gate, Nev.		34	32	20 (29)	43	34	126
Humboldt R. at Palisade, Nev.	225	225	200	150 (201)	247	173	143
Humboldt R. at Comus, Nev.		170	145	110 (172)	211	127	166
Martin Cr. nr. Paradise, Nev.		18	17	10 (13)	19	17	112
E. Walker nr. Bridgeport, Calif. ²		90	90	75 (81)	88	57	154
West Walker below E.Fk. nr. Coleville, Calif.	210	200	200	180 (168)	186	140	133
E. Carson nr. Gardnerville, Nev.		250	250	205 (193)	235	179	131
E. Carson nr. Gardnerville, Nev. (date of 200 c.f.s. flow)		8/3	8/3	8/5	8/27	7/20	---
W. Carson at Woodfords, Calif.		75	75	60 (57)	72	52	138
Carson R. nr. Carson City, Nev.		235	235	195 (194)	243	169	144
Carson R. at Ft.Churchill, Nev.		220	220	180 (175)	218	155	141
Little Truckee R. above Boca, Cal. ³	117	108	71 (86)	129	78	165	
Truckee R. at Farad, Calif. ^{3,4}	345	320	220 (222)	320	269	119	
Lake Tahoe ^{3,5}	1.80	1.70	1.27 (1.13)	1.76	1.47	120	
Surprise Valley Streams	Observed data not yet available						

- 1 Corrected for storage in Wild Horse Reservoir.
- 2 For period April through August corrected for storage in Bridgeport Reservoir.
- 3 Forecast issued by Truckee Basin Water Committee which is composed of Truckee-Carson Irrigation District, Sierra Pacific Power Company and Washoe County Conservation District.
- 4 Exclusive of Tahoe and corrected for storage in Boca Reservoir.
- 5 Maximum rise, in feet, from April 1, assuming gates closed.
- * May 1-July 31, 1965 forecast; figure in parentheses provisional observed streamflow.

NEVADA
STATUS OF RESERVOIR STORAGE
OCTOBER 1, 1965

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (1000 A-F)	USABLE STORAGE - 1000 ACRE-FEET				15-YR. AVE. 1948-62
			1965	1964	1963		
Owyhee	Wild Horse	33	18	0*	23		12
Lower Humboldt	Rye Patch	179	175	100	72		49
Colorado	Mohave	1,810	1,377	1,341	1,406		1,152**
Colorado	Mead	27,217	14,708	11,623	17,371		19,307
Tahoe	Tahoe	732	655	276	396		391
Truckee	Boca	41	18	9	1		13
Truckee	Prosser	29***	19	16	19		Storage began 1/30/63
Carson	Lahontan	286	207	97	165		80
West Walker	Topaz	59	41	8	28		14
East Walker	Bridgeport	42	30	8	22		12

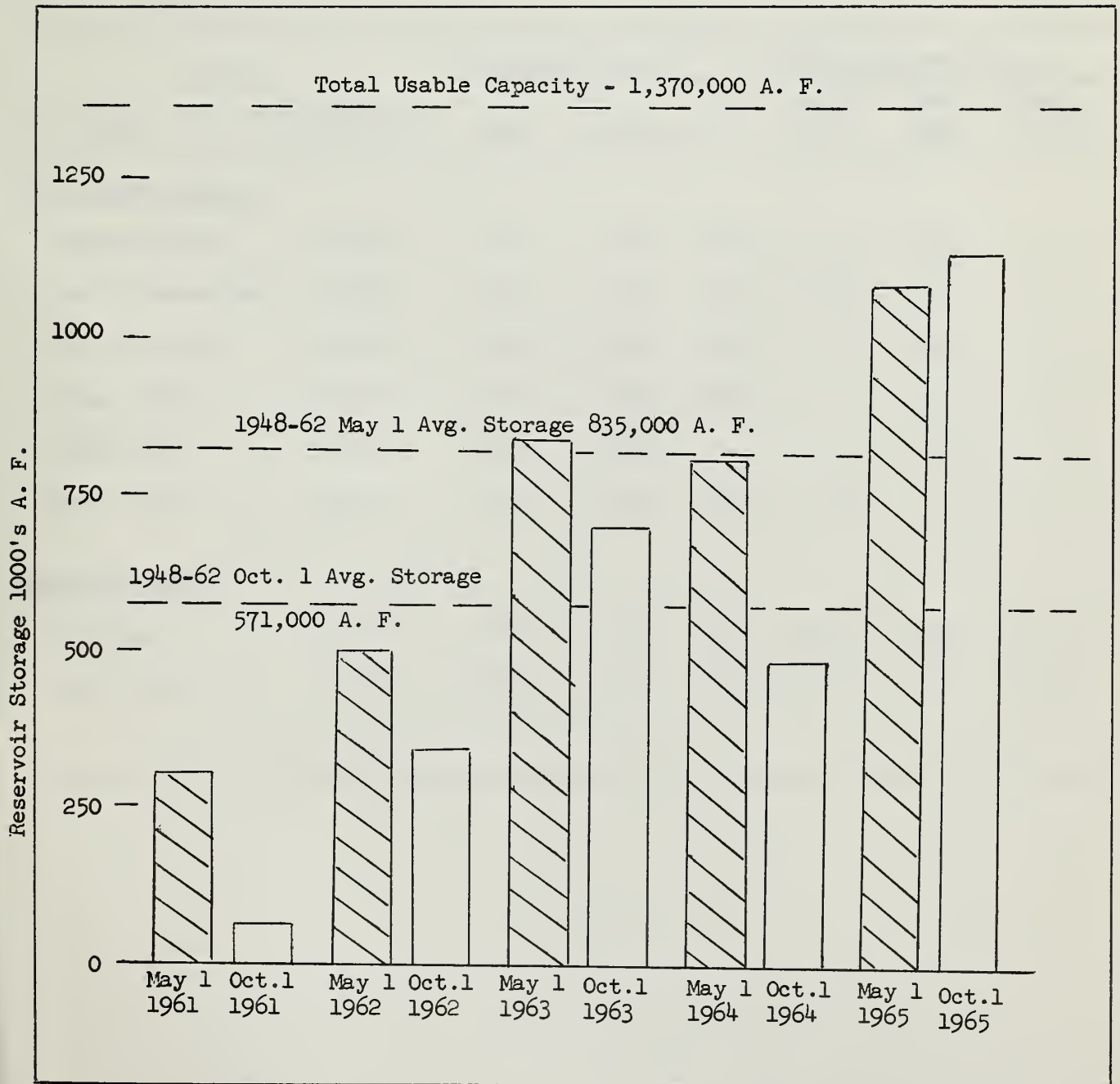
* Reservoir drained during summer to effect repairs to dam.

** 1951-62

*** Flood control use allocation of 20,000 acre-feet between Nov. 1 and April 10.

NEVADA RESERVOIR STORAGE
1961-65

Based on Wild Horse, Rye Patch, Tahoe,
Boca, Lahontan, Topaz and Bridgeport Reservoir Storage Data.



NEVADA
SOIL MOISTURE
OCTOBER 1, 1965

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
Name	Elevation	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
<u>East Slope Sierra</u>							
Hagans Meadow	8000	36	3.65	10/5	2.3	0.8	--
Independence Camp	7000	34	6.10	10/7	6.1	4.5	--
Marlette Lake	8000	50	3.70	10/6	3.7	2.6	--
Sonora Pass	8800	48	8.30	9/28	7.6	6.6	--
Truckee #2	6400	18	3.65	--	---	0.8	--
Ward Creek	7000	49	5.80	10/7	5.7	1.0	--
<u>Humboldt Basin</u>							
Big Bend	6700	48	16.7	7/14	15.7	14.5	14.4
Rodeo Flat	6800	42	11.0	8/17	10.2	8.3	10.0

Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL

- Agricultural Research Service
- Army
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service
- Geological Survey
- Navy
- Soil Conservation Service
- Weather Bureau

STATE

- California Cooperative Snow Surveys
- California Department of Water Resources
- Colorado River Commission of Nevada
- Nevada Association of Soil Conservation Districts
- Nevada Cooperative Snow Surveys
- Nevada Department of Conservation & Natural Resources
 - Division of Water Resources
 - Nevada State Forester-Firewarden
- Oregon Cooperative Snow Surveys
- University of Nevada
- White Mountain Research Station, Univ. of California

PRIVATE

- Amalgamated Sugar Company
- Kennecott Copper Corporation
- Nevada Irrigation District
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Pacific Gas & Electric Company
- Pershing County Water Conservation District
- Sierra Pacific Power Company
- Squaw Valley Development Company
- Truckee-Carson Irrigation District
- Virginia City Water Company
- Walker River Irrigation District
- Washoe County Water Conservation District

Other organizations and individuals furnish valuable information for the snow survey reports. Their Cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
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with the Snow Survey"*